



## THE BRITISH SPECIES OF OPOMYZIDAE (DIPTERA).

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13,820

The Opomyzidae are a small family of Acalyptrate Diptera which always have clouds or spots on some of the wing veins in British species.

Head with only one pair of (reclinate) orbital bristles; no true vibrissae, though sometimes a peristomal bristle below eyes may be mistaken for a vibrissa, such bristle however is some distance behind front margin of mouth opening; third antennal joint at an angle with second; arista pubescent and sometimes with long hairs above only; upper part of occiput excavated and (in British species) without postvertical bristles. Thorax with meso- and sterno-pleurae hairy, and each with one strong bristle; pteropleurae with a few hairs and sometimes a bristle. Wings often long and narrow, subcostal vein short, mediastinal vein ending at a "break" in costa shortly before end of subcostal, there being a short upward projection of the subcostal vein opposite the "break;" second basal and anal cells small; anal vein usually short but distinct; thoracal squamae reduced to a ridge only. Legs with no dorsal preapical bristle to tibiae, and only middle tibiae with a long ventral spur.

The larvae of several species are known to live in the central shoots of grasses and cereals.

There are only two British genera, *Opomyza* with arista only pubescent, scutellum with four almost equally strong marginal bristles and some hairs on disc, and *Geomyza* (formerly *Balioptera*, Lw., v. *Ent. Mon. Mag.*, lxxix, p. 235), with some longer hairs on upper side of arista, basal scutellar bristles small, and disc of scutellum bare. The third European genus *Anomalicheta*, Frey, which may be found in Britain, is distinguished from both the others by the possession of postvertical bristles; it has the scutellum of *Geomyza*, arista of *Opomyza*, and wings each with about ten round, hyaline, spots or patches.

## TABLE OF SPECIES OF OPOMYZA, FLN.

- 1 (4). Whole of costal margin of wing, from end of subcostal vein onwards, infuscated.
- 2 (3). Abdomen darkened but with a yellowish basal patch near side margin of each tergite, some of these patches extending to hind margin. Mesolobes (or anal cerci) in male with yellowish hairs only at tip and no minute black spines in male *germinationis*, L.
- 3 (2). Abdomen with a yellow stripe down each side between a dark median stripe and dark side margins. Arista more distinctly pubescent. Mesolobes blunt-ended and clothed there with numerous minute black spines as well as some longer dark hairs .....  
*petrei*, Mesnil.
- 4 (1). Costal margin not infuscated except near tip of wing.
- 5 (10). Thorax without median dark stripe.
- 6 (9). No clouded supernumerary cross vein, or clouded spot, in first basal cell, between middle cross vein and wing base.
- 7 (8). Cubital vein between middle cross vein and tip of wing sometimes infuscated but without separate cloud spots ... *florum*, F.
- 8 (7). Separate small cloud spots on last section of cubital vein. Prehypopygial tergite of male abdomen (that bearing a pair of bristles at tip) shorter, scarcely so long as previous tergite .....  
*punctata*, Hal. (*nathaliae*, Egg.).

- 9 (6). Wings with a clouded supernumerary cross vein, or at least a clouded spot, in first basal cell before middle cross vein ..... *punctella*, Fln.
- 10 (5). Thorax with a median dark stripe. Wings narrowed about base and sometimes with indications of a supernumerary cross vein in first basal cell ..... *lineatopunctata*, v. Ros.

*O. germinationis*, L. This is a common and widely distributed species which breeds in various grasses and cereals.

\**O. petrei*, Mesnil. Apparently an overlooked species first described in 1934 (*Rev. France Ent.*, I, 202) and included in a *Monograph of Noxious Insects*, 1936, by Balachowsky and Mesnil. It was bred from larvae feeding in the grass *Anthoxanthum*. I can record its capture in Sussex (Ranscombe), Cambs. (Chippenham), Suffolk (Newmarket), Hants (Lymington), and Perthshire (Rannoch).

*O. florum*, F. Another common species breeding in grasses and cereals.

*O. punctata*, Hal. This was first described in 1833 by Haliday (*Ent. Mag.*, I, pp. 150 and 177) as a var. of *florum*, and later (1862) as a new species (*O. nathaliae*) by Egger. It would appear to be a distinct species though very much like a rather small *florum*. I can record it at present only from Essex and Suffolk. Haliday's record was from Holywood, Co. Down.

\**O. punctella*, Fln. Typical specimens have a varying number (up to seven) of small round cloud spots on last section of cubital vein. Czerny states that the spots may differ in number on the two wings of a specimen and may even be absent. I have seen only one British specimen which can be referred to this species, a female in the British Museum captured by Mr R. L. Coe at Braemar (Aberdeenshire) towards the end of July 1938, and this has no indication of any cloud spots on the cubital vein of either wing.

*O. lineatopunctata*, v. Ros. This has been taken freely at Crowborough (Sussex) by Mr F. Jenkinson, and at Barton Moss (Lancs.) by Mr H. Britten, while I have found it in Chippenham Fen (Cambs.).

TABLE OF SPECIES OF GEOMYZA, FLN. (BALIOPTERA, LW.).

- 1 (4). One pre- and only two post-sutural dorsocentral bristles on thorax.
- 2 (3). No distinct long peristomal bristle. Thorax blackish ..... *breviseta*, Cz.
- 3 (2). With a distinct peristomal bristle. Thorax reddish-yellow ..... *hendeli*, Cz.
- 4 (1). One pre- and three post-sutural dorsocentrals.
- 5 (8). Only the outer cross vein and tip of wing clouded (but see under 8 (5)).
- 6 (7). Wings very narrow with apical cloud large and extending below end of discal vein ..... *apicalis*, Mg.
- 7 (6). Wings less narrow with smaller apical cloud extending only slightly below cubital vein. Paralobes of male genitalia excavated at tip so as to end in two blunt points ..... *venusta*, Mg.
- 8 (5). Both cross veins and tip of wing clouded. In cases of doubtful clouding of middle cross vein, subcostal vein longer, so that distance between humeral cross vein and end of subcostal is at

least as long as from this latter to a point opposite middle cross vein, and this latter distance not longer than between middle and outer cross veins.

- 9 (12). Pteropleurae with short hairs only. No distinct darkening of wing below end of subcostal vein.
- 10 (11). Cross veins only narrowly clouded, middle cross vein often only slightly and indistinctly clouded ..... *combinata*, L.
- 11 (10). Cross veins broadly and middle cross vein always very distinctly clouded ..... *majuscula*, Lw.
- 12 (9). Pteropleurae with a distinct long black bristle as well as 1-2 short hairs. A distinct darkening of wing below end of subcostal vein. Cross veins broadly clouded. Thorax and legs variable in colour ..... *tripunctata*, Flin.

Those species with only three pairs of dorsocentral bristles have been placed in a separate genus, *Geomyzella*, by Enderlein (1936). This name would appear to be a synonym of *Mutilloptera*, Coq. (1908), but *G. hendeli* with three dorsocentrals so closely resembles *apicalis* with four such bristles in all other characters, that I agree with Czerny in considering that they do not represent distinct genera.

\**G. breviseta*, Cz. A little known species described in 1928 from three specimens taken by Oldenberg near Berlin. It is small and dark with narrow wings having their extreme base and costal margin to end of subcostal vein darkened. Legs yellow with postero-dorsal dark patch on four posterior femora, and hind tibiae extensively darkened. The absence of the usual long peristomal bristle is very distinctive. I caught a female at Worlington (Suffolk) on 19th June 1936.

\**G. hendeli*, Cz. Another very little known species described in 1928 from a single female taken by Hendel on the Island of Rügen. It is very small (scarcely 2 mm.) with yellow thorax, but upper part of pleurae and all metanotum below scutellum brownish; abdomen black; antennae very pale yellow; upper part of frons brownish. Legs yellow, but four posterior femora with a faint brownish ring before tip (most evident on hind femora). Wings very narrow and strap-shaped, darkened about base, as far as humeral cross vein. There is a single male in the British Museum taken by Dr F. W. Edwards at Letchworth (Herts.) in July 1917.

*G. apicalis*, Mg. Differing from *hendeli* mainly by the possession of four pairs of dorsocentral bristles on thorax; it seems however to be a rather larger species with wings not so extremely narrow, but I have seen only one female taken by Mr Verrall at "Burnham" (? Essex) in August 1881.

*G. venusta*, Mg. I have not seen a British specimen of this species. The two females under this name in the Verrall Collection were immature *combinata*. It seems to be not uncommon on the Continent. Mesnil records it as breeding in grasses of the genus *Bromus* in France. The male genitalia are very distinctive.

*G. combinata*, L. This and *tripunctata* are the two common British species. For some reason difficult to understand, Mesnil used the name *combinata* for a species very closely resembling *tripunctata*, and described our British *combinata* as a new species, *G. balachowskyi* (1934, *Rev. Franc. Ent.*, I, 197). He found the latter to breed in grasses of the genus



*Holcus*. It has also been bred from young wheat plants. The paralobes of male genitalia are more pointed than those of *tripunctata*.

\**G. majuscula*, Lw. This species, as I understand it, is very much like a rather large *tripunctata*. At present it is known to me from three females only, taken in March at Chippenham and Burwell Fens, and in August at Chippenham Fen (all Cambridgeshire). They cannot be the *combinata* of Mesnil because of the absence of the longer bristle on pteropleura, and of the darkening of wings below end of subcostal vein.

*G. tripunctata*, Flin. A very common species variable in colour and size. The thorax varies from the usual yellow of most specimens to almost entirely black slightly dusted greyish, and the legs may be extensively darkened. I possess one small male in which the outer cross vein is entirely absent (together with its surrounding dark cloud) from both wings. It breeds in grasses (being especially common in *Lolium*) and in cereals. The species described and figured by Mesnil as *combinata* appears to differ from *tripunctata* only in small details of male genitalia. The paralobes of Mesnil's species more resemble those of *tripunctata* than those of *combinata*, being less pointed than the latter; the inner margin of their broadly rounded end bear a dense row of 15-16 minute black spines compared with the 6-8 more widely and irregularly placed spines of *tripunctata*. Mesnil's specimens were bred from young wheat plants, which are certainly attacked in this country by undoubted *tripunctata* as proved by bred specimens in my collection.

Those species marked with an asterisk (\*) are new to the British List.

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### A GYNANDROMORPH OF OPEROPHTERA BRUMATA, L.

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Mr A. M. Masee kindly sent me a living gynandromorph of *O. brumata*, which he found caught on the sticky band of a fruit tree at the East Malling Research Station, Kent, on 8th November 1943. The right antenna is male and the left female; the right forewing is about 12 mm. long and was probably a normal and fully-expanded male wing before it became covered with sticky material from the band; the right hindwing, 2.25 mm. long, resembles that of a female in shape and has a dark transverse line running across it; the left forewing, 3 mm. long, is also like that of a female; the left hindwing, about 7 mm. long, is very narrow, curves forwards, and has a fringe along the inner margin; the abdomen is not quite as stout as that of a female. Internally there was a bursa copulatrix, two ovaries of equal size, each containing a considerable number of eggs, but fewer than a normal female has; the left cement gland was fully developed, but the right one was absent. The external genitalia were not examined.

No gynandromorph of this species is mentioned in the complete list of Palaearctic gynandromorphs published by Schultz (*Allgem. Z. Ent.*, 1904, 9, 304), but Rudolf Heinrich reports and figures one (*Int. Ent. Z.*, 1927, 20, 203). It has a wing span of 10 mm.; all four wings are unequal in size and shape, those on the right side being more like those of a male than a female and the left hindwing more like that of a female. He was unable to find any previous record of a gynandromorph